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TARGHEE NATIONAL FOREST

MOUNTAIN PINE BEETLE SUPPRESSION PLAN

Spring, 1969

PREPARED BY: John J. Kinchelow — Project Supervisor — 4/11/69 Date

SUBMITTED BY: [signature] — Branch Chief — 5-12-69 Date

RECOMMENDED BY: Robert H. Tracy — Forest Supervisor — 5/12/69 Date

APPROVED BY: _____ — Acting Regional Forester - TM — Date

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Mountain Pine Beetle Control Project
Targhee National Forest
Master Plan
Spring, 1969

1. History

a. Tree species infested - Pinus contorta (lodgepole pine).

b. Insect species - Dendroctonus pondorosae (Hopk.) (mountain pine beetle).

c. Age of infestation - Mountain pine beetle was recognized in epidemic proportions on the Targhee National Forest as early as 1927, with major infestations occurring about 1930, 1948, and 1959 to the present. It is difficult to say in what year epidemic infestations of the beetle originated on this Forest. Evidence of past epidemics appear in the Forest on old logs lying on the ground which, by their stage of deterioration, indicate beetle-killed trees of at least 50 years ago.

The present epidemic infestation was first recognized in the fall of 1958. Partial control efforts have been carried out each year since the spring of 1959. The extent of financing did not allow the treating of all infested areas in any one year. Some areas of heavy and extensive infestation were left untreated and efforts were concentrated to keep the infestation from spreading in newly hit stands of timber.

Control measures have been effective to the extent that buildup within treated areas has been held within acceptable limits. However, extensive insect-infested areas on private, State, B.L.M., and National Forest land were not treated. These areas caused considerable reinfestation on the Forest and made complete control impossible. Also, prior to the fall of 1964, adequate survey funds were not available. This resulted in incomplete surveys so all areas of the infestation were not detected.

Adequate survey funds were given to the Forest in the fall of 1964. All epidemic infestations were then detected and surveys were completed. Followup funds available for treating were inadequate; however, and treating was possible only on high priority areas.

Adequate financing was made available in the fall of 1965 to treat the entire infestation on National Forest lands, except the main Rexburg infestation. That area was considered to be too heavily infested to justify treatment. All other areas of infestation on National Forest land were successfully treated. However, State and private lands adjacent to these treated areas which were heavily infested were not treated and caused a serious reinfestation of National Forest timber that had been treated.

In the fall of 1966, authority was granted by the Chief to treat the infestation on State and private lands adjacent to the Forest boundary. Plans were made and the project was organized to treat all infested

lands, except the main Rexburg infestation. Insufficient funds were available to treat the entire proposed project so the project was reduced to fit available financing. The revised project was successfully completed, but heavy reinfestation occurred from untreated areas on the southern portion of the Forest.

During the fall of 1967, financing was made available to treat about 400,000 infested trees. To stay within that limitation and still conduct an effective treating program, all epidemic infestations were treated which were on or adjacent to the Targhee N.F., that were north of the Cave Falls Road. The areas selected for treatment are correlated with resource values and effectiveness of past control in an attempt to gain control of a portion of the infestation. However, a heavy reinfestation was expected from untreated areas into the southern portion of the project area. The treating was successfully completed and reduced the intensity on the northern portion of the Forest holding the infestation from spreading significantly into new areas of the Moose Creek Plateau.

Funds were not available to start a treating program during the fall of 1968. However, the entire infestation north of the Cave Falls Road was surveyed. The project covered by this plan is based on the results of that survey.

d. Past control - The following tabulation shows the fiscal years that treating projects were carried out on the Targhee National Forest.

Year	Trees Treated	Year	Trees Treated
1927	3,079	1959	3,197
1928	31,204	1960	5,963
1929	30,065	1961	2,983
1930	35,987	1962	9,415
1949	21,472	1963	43,787
1950	15,170	1964	59,988
1951	640	1965	28,298
1952	77	1966	268,843
1954	498	1967	597,724
		1968	439,941

Prior to 1961, logging of insect-infested trees was insignificant due to a lack of market. Since that time, a stud market developed and much logging was diverted to infested areas. This method of control has

accounted for a considerable number of dead and infested trees being removed.

The main method of treatment has been hand spraying with ethylene dibromide. Small areas also have been treated by fell-and-burn method. During the 1967 project approximately 15,000 acres were treated by felling and sprinkling. Since then, only small areas in the travel influence zones have been felled and treated.

2. Present Infestation

a. Estimated number of infested acres by ownership:

National Forest	State	B.L.M.	Private	Total
667,000	8,580	2,000	10,000	687,580

b. Estimated number of trees infested by ownership:

National Forest	State	B.L.M.	Private	Total
2,900,000	5,000	2,000	50,000	2,957,000

c. Boundaries of infestation

(See map in Appendix.)

3. Proposed Control

a. Suppression Objective

The Targhee National Forest is characterized by extensive stands of mature and overmature lodgepole pine. These stands are threatened by an intense bark beetle epidemic on other areas of the Forest. The Targhee timber sale program has been accelerated to the extent that much of the threatened timber stands will be harvested in the next six years.

However, it will be necessary to chemically treat these stands during that period to prevent loss, prior to logging, by beetle attack. The suppression objective covered in this plan is to treat chemically all bark beetle infested lodgepole pine, within or adjacent to the major timber sale area, north of the Cave Falls Road and east of U.S. Highway 191.

As the timber harvest progresses, subsequent treating projects can be expected to become progressively smaller. After the six-year program is completed, the timber stand will be converted to a younger, more resistant age class. The danger from the bark beetle epidemic should then be substantially reduced.

b. Work Objectives

(1) All infested areas of the Forest and adjacent lands north of the Cave Falls Road were surveyed to determine buildup ratios and spread into new areas. This survey was made during September and October of 1968.

(2) Redesignation, repair and correction of paintlines was begun on the units within the planned project area on March 17. It is planned for completion by May 3.

(3) Award spotting and treating contracts on forty-seven units by May 3 and begin treating by May 21.

(4) Complete treating of 290,000 trees prior to insect emergence in July.

c. Survey Method

Type of Area	Method
(1) All old units north of Cave Falls Road	One quarter chain wide strip on selected lines. Interval was determined statistically by Regional biometicians.
(2) New areas suspected of infestation north and east of 1967-68 project area	Same method as above.

d. Methods of Treatment

(1) Logging will be increased to the amount possible.

(2) Chemically spraying standing trees is the main method of treatment in the short run. No fell and burn, burn standing, or pushover and burn as methods of treatment are planned. Only those trees which cannot be adequately treated standing will be felled and treated.

Logging

(1) Lodgepole stud sales on the Targhee Forest have been offered for sale and cutting on insect-infested areas wherever possible. Logging on several of these sales is in progress on the area planned for direct control. A large sale of approximately 150 million board feet has been advertised. If this is sold, it will be harvested over the next six-year period. The sale area includes a major portion of the treating project area. It is designed to systematically harvest the insect susceptible timber and eventually will result in a younger, more insect resistant stand of lodgepole pine.

(2) Summary of timber sales program to assist in eventually controlling the infestation is as follows:

(a) Timber sales from which infested lodgepole trees will be removed during current suppression period:

Name of Sale	Dist.	Sale Date	Volume Sold	Volume Cut by 7/31/68	Vol. Est. to be Cut 8/1/68-7/31/69	Est.Inf.Trees Cut-8/1/68-7/31/69	Acres Cut 8/1/68-7/31/69
Blind Canyon	1	1/65	1,300 M	830 M	869 M	5	5
West Bishop	3	11/65	5,100 M	3,485 M	1,615 M	2,400	241
Elk Wallow II	3	12/65	2,000 M	--	2,387 M	700	239
Anderson Mill	3	5/67	9,500 M	1,922 M	928 M	1,000	103
Upper Robinson	4	1/65	4,800 M	57 M	7,620 M	17,900	896
Bitch Creek	4	12/66	9,000 M	5,811 M	4,239 M	4,500	446
Tepee Creek	5	8/67	23,100 M	1,398 M	3,886 M	5,000	480
Lower Robinson	4	3/68	2,500 M	484 M	2,056 M	3,500	228
Huckleberry Ridge	4	4/68	5,700 M	50 M	250 M	300	26
Shaefer Creek	4	11/67	1,400 M	--	983 M	1,300	109
Moose Creek Butte	4	7/68	6,200 M	--	1,450 M	700	145
Gerritt	3	7/68	7,900 M	--	2,000 M	950	235
Osborne Bridge	3	4/68	5,200 M	--	1,000 M	250	125
Bowerman Mill	3	12/67	5,200 M	3,720 M	2,590 M	1,200	305
North Bishop	3	7/68	5,000 M	--	510 M	200	64
Misc. Small Sales					3,000 M	3,000	1,000
TOTAL:					35,383 M	42,905	4,647

(b) Summary of insect-control sales:

Estimated volume of insect infested lodgepole pine to be harvested during current suppression period ending 7/31/69 - 3,870 MBF

Estimated number of infested trees to be removed by logging during current suppression period ending 7/31/69 - 43,000

Estimated volume of infested and host material to be removed by timber sales - 35,383 MBF

Direct Treating Project

The insect control branch chief, in addition to planning and directing the control project, will coordinate the Forest timber sales, cooperative treating, and I&E. The District Rangers will participate in all planning, multiple use coordination and other phases, which might affect management of their Districts. Although Rangers will not be involved in the mechanics of the insect treating project, they will prepare and administer timber sales by District personnel and Supervisor's Office staff personnel.

A project supervisor, under direction of the insect control branch chief, will supervise the project with headquarters at St. Anthony. One field zone will be established with headquarters at the old Ashton Ranger office. The Island Park insecticide dump will serve the entire zone. The Island Park camp will be used for quarters only for crews working on the northern units of the zone. Both the dump and camp will be under the supervision of the Ashton zone supervisor.

The zone will include fifteen treating units of the old zone II; five new units; and the remainder are units from the old zone IV. Forty-seven treating units are planned for treatment on the new zone. All units have been advertised for contracting and will be awarded immediately following bid opening on April 28.

The summary of trees and acres which are planned for contract spotting and treating is as follows:

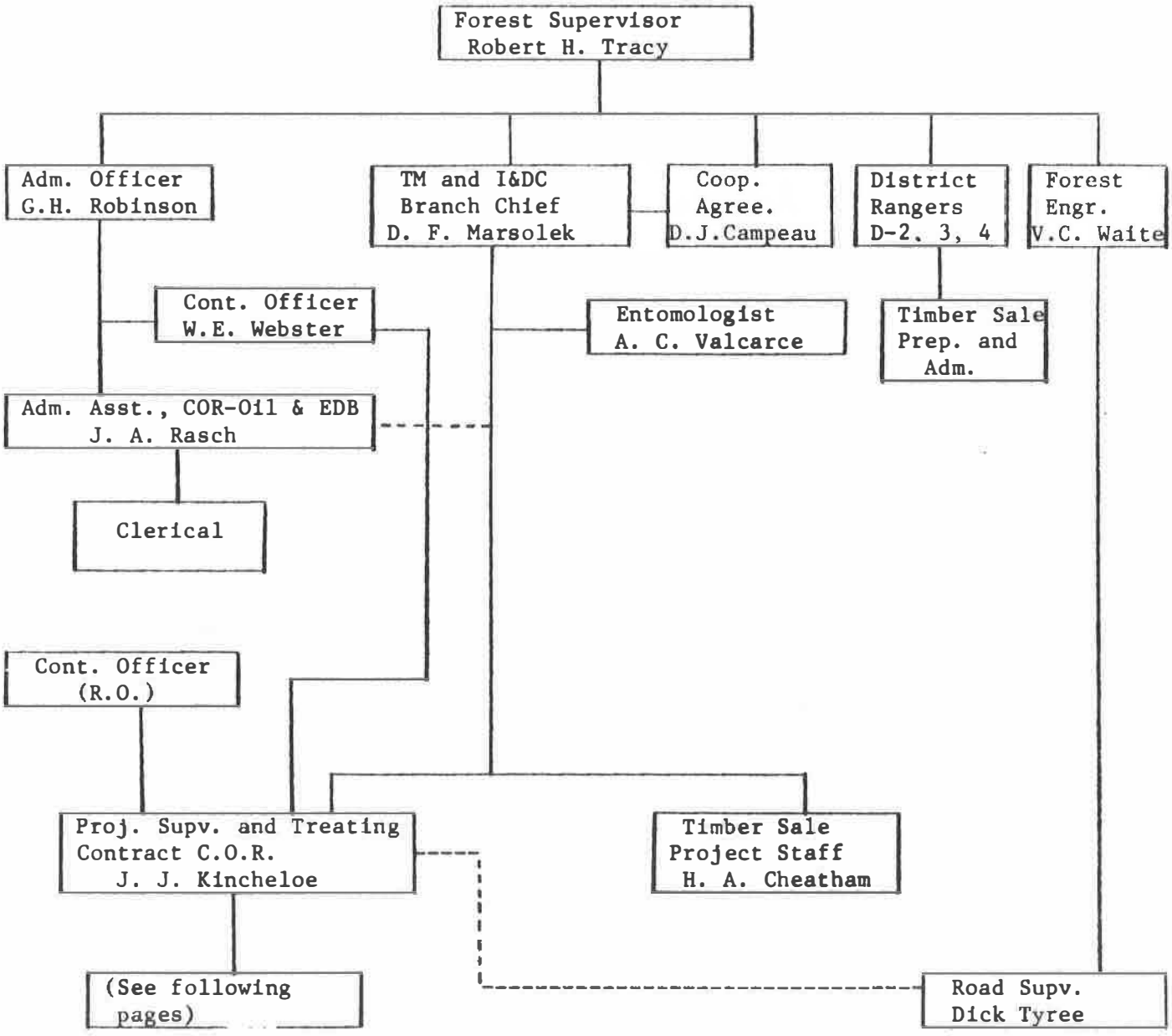
	State	Private	BLM	Forest	Total
Infested trees	3,950	1,850	30	284,170	290,000
Infested acres	3,840	1,620	40	158,100	163,600

All figures shown above are estimates based on the 1968 fall survey.

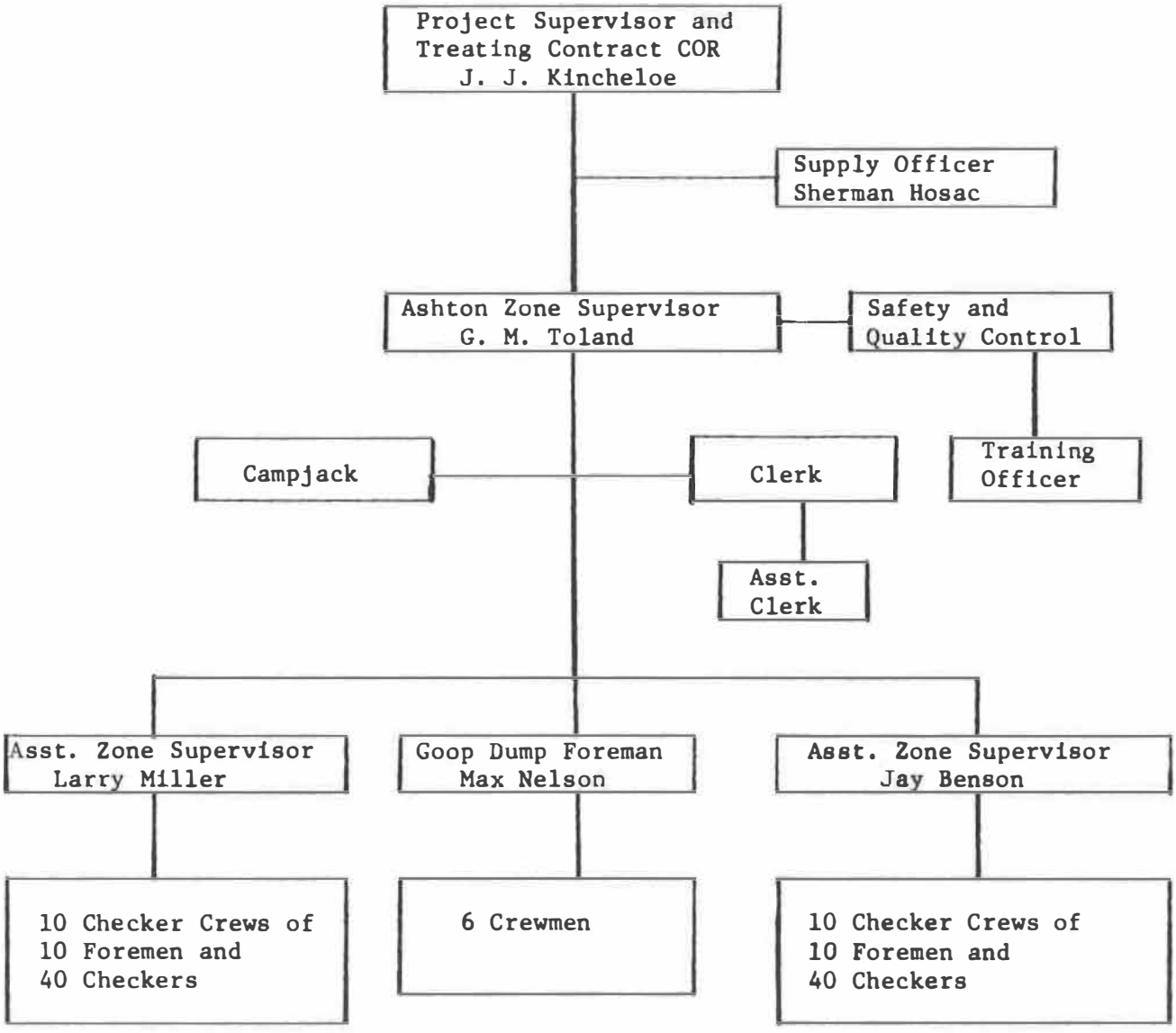
No force account treating is planned. However, small spots of infested trees along the Park boundary and north of the project area may be treated by force account crews if time, finances, and available manpower permit.

The following pages outline the present organization.

(a) Forest Supervisor's Organization - Insect Control



(b) Insect-Control Headquarters Organization - St. Anthony, Idaho


Project Supervisor and Treating Contract COR J. J. Kincheloe
Supply Officer Sherman Hosac
Ashton Zone Supervisor G. M. Toland
Safety and Quality Control
Campjack
Clerk
Training Officer
Asst. Clerk
Asst. Zone Supervisor Larry Miller
Goop Dump Foreman Max Nelson
Asst. Zone Supervisor Jay Benson
10 Checker Crews of 10 Foremen and 40 Checkers
6 Crewmen
10 Checker Crews of 10 Foremen and 40 Checkers

(c) Other Personnel Needed

Off-Forest detailers are acquired by direct contact with Forest Supervisors, with Regional Forester staff assistance. The available personnel on the Forest have been included in the insect control organization. A significant number of checker personnel will be recruited locally. However, additional qualified and experienced personnel for checker foremen and checkers needed are as follows:

Type of Detailers	Number	Approximate Period
Experienced insect-control workers	25	May 12 - July 20
Other crew men (need not be experienced)	24	May 12 - July 20

5. Financial Plan

a. Project Funds Available (in Forest operating plan)

Fall, 1968 survey costs	$ 26,232
Miscellaneous salaries, general expense, mileage, travel, and miscellaneous costs	52,953
Spring project funds	1,229,000
Proposed F.Y. 1970 cost to complete spring project	175,250

b. Estimated F.Y. 1969 Project - $ 1,483,435

c. Breakdown of Spring Project Costs

Item	Amount
Paintline project	$ 51,460
Contract treating	669,990
Supplies and miscellaneous	19,080
Insecticide	152,414
Travel	32,350
Salaries	184,491
Equipment rental	27,900
General expense	20,000
Road maintenance and snow removal	50,000
Other Forest operating and administrative costs, and surplus funds	196,565
Estimated total spring project costs:	$ 1,404,250

d. Breakdown of total project cost by fiscal years:

F.Y. 1969	$ 1,308,185
F.Y. 1970	175,250
TOTAL:	$ 1,483,435

The project is planned on the assumption that the funds will be allocated for each fiscal year in the amounts shown. The funds estimated for F.Y. 1970 are for completing this project only and do not include any other work or salaries that will be planned for that year.

e. Other planned Forest expenditures from which the insect control project will directly benefit, are as follows:

Timber sale preparation (P&M)	$ 70,000
Road construction (Fish Creek Road) (FR&T)	43,600
TOTAL:	$ 113,600

6. Collaboration and Working Agreements

a. Authority has been granted by the Chief to treat infestations on private lands to a maximum of 20 percent of the total project costs. The private lands included in this project are well below this amount. Agreements will be negotiated for treatment of infested trees on alienated lands within the project boundaries.

b. Spotting and treating contracts have been prepared and are planned to be awarded so work can be started by May 21. All proposed changes in these contracts have been reviewed with the Regional Divisions of Timber Management and Operation personnel.

7. Safety and Training

A safety and quality control officer will be assigned to the project. He will periodically check for compliance with the project safety plan and report to the zone supervisor. He will also have a training officer working with him to provide followup training as it is needed. He will conduct weekly safety meetings consulting with and advising the zone supervisor on any suggestions for improvement of safety practices. He is personally responsible to the zone supervisor for all safety activity on the zone. He will submit a written report to the zone supervisor weekly concerning safety and quality control. The zone supervisor will forward a copy to the project supervisor. (See Appendix A for the Safety Coordination Plan.)

A formal training session will be conducted during the week preceding the start of work. This session is to include both classroom and field training in insect suppression work, bark beetle technology, and field contract administration. The project supervisor will conduct the training assisted by the zone supervisor and Regional insect control personnel. A project training officer is planned for followup training during the first half of the treating period. Contractors will be invited to attend the training session prior to the beginning of work.

The safety plan and hazard analysis provided in this plan are all inclusive. No separate plan will be prepared for the zone as it would only duplicate this

one. The zone supervisor will provide each crew foreman with a copy of the safety plan and the Forest Service Health and Safety Code.

8. Equipment, Supplies, and Services

a. Maps and photo coverage will be obtained as needed.

b. Insecticide

(1) Amount available:

Mixed insecticide - 7,150 gallons

Concentrate ethylene dibromide - 10,800 gallons

Diesel oil - 32,000 gallons

Estimated additional amount of mixed insecticide needed - 965,000 gallons

(2) Mixing Plants - The dump is located at the Island Park Ranger Station with a capacity of 10,000 gallons per day. Two 10,000 gallon tanks are planned to be moved to this dump from the old Rapid Creek dump to increase the oil storage capacity at Island Park.

The insecticide to be used will be ethylene dibromide concentrate mixed at a ratio of 1 to 19 with No. 2 burner oil. This mixture is used at the recommendation of Regional Office insect control personnel as the most efficient and economical insecticide for the bark beetle.

c. Transportation

(1) Vehicles - The following vehicles are available on the Forest for the project:

1 - 1/2-ton pickup
2 - 4x4 carryalls
2 - 3/4-ton pickups

The following are anticipated vehicle needs in addition to what is shown above:

5 - pickups
20 - carryalls
1 - 1½-ton trucks

(2) Pack Stock - Except for the few animals available on the Forest, it is planned to rent pack stock locally. ($285 of I&DC funds were programmed for maintenance of the Forest pack and saddle stock in F.Y. 1969.)

d. Camps

A large, semi-permanent camp is now located at the Island Park Ranger Station. It may be used for quarters but no subsistence will be provided. Most detailer personnel will stay and subsist at commercial facilities in Ashton, Idaho.

e. Communications

The present Forest radio and telephone net is now considered sufficient for the project. Minor additional needs or installations, excess to other Forest needs, will be provided. ($2,277 of I&DC funds were programmed for maintenance of the radio communication system in F.Y. 1969.)

f. Miscellaneous Supplies

The Regional Office Insect and Disease Control Branch has a copy of our inventory as of the end of the spring 1968 project. The supplies and equipment reduced to a certain extent, but the major part is still available. Necessary supplies will be purchased through the regular channels prior to May 1.

9. Multiple Use Coordination

Overall planning and project coordination for the entire treating project is the responsibility of the insect control Branch Chief. Multiple use coordination supervision for each individual treating unit is the responsibility of each District Ranger involved, who also has the responsibility for assuring that all phases of the work are conducted in accordance with the management requirements and decisions contained in the Regional Multiple Use Management Guide and the Ranger District multiple use plans. A stage II multiple use survey and report for the entire project will be prepared by the Ashton and Porcupine District Rangers, assisted by the project supervisor, and approved by the Forest Supervisor. Copies will be made available to all project personnel after approval by the Regional Forester.

10. Information and Education

The timber management and insect control Branch Chief will correlate all I&E activities for the insect-control project. He will prepare news releases for radio, television, and newspapers. He will also conduct show-me trips to the various project areas.

All insect-control news releases, whether prepared by Ranger or other, will be reviewed by the Forest I&E officer. This is to ensure effective coordination of these news releases.

See Appendix B for the I&E plan for the insect-control project.

11. The following is a list of proposed roads for snow removal and road maintenance for the insect treating project:

a. Road Maintenance

Road Name	Road No.	Mileage
Warm River Fish Hatchery	80154	1.5
Gerritt	80156	2.0
Warm River	80150	14.2
North Hatchery Butte	80315	5.0
Eccles	80112	12.0
Chick Creek	80291	13.4
Sheep Falls	80163	3.8
Anderson Mill Canyon	80164	5.2
Snow Creek	80092	13.1
Snow Creek Butte	80094	9.0
Robinson Creek *	80241	4.8
Rock Creek Forest Highway *	80014	2.5
Horseshoe Lake	80246	6.0
Rising Butte	80245	6.7
Rock Creek - Bear Creek	80244	9.0
Upper Mesa Falls	80295	1.0
Fish Creek *	80082	6.5

b. Snow Removal

Road Name	Road No.	Mileage
Mesa Falls Scenic Drive	80294	16.0
North Hatchery Butte	80315	5.0
Gerritt	80156	2.0
Chick Creek	80291	13.4
Eccles	80112	12.0
Warm River	80150	14.2
Rock Creek Forest Highway	80014	2.5

* Part or all of these roads are under the jurisdiction of Fremont County and snow removal and road maintenance will need to be coordinated with the county commissioners.

Gravel four miles of the Warm River Hatchery Road.

c. Estimated funds needed for road program:

I&DC -	$ 50,000
FR&T -	43,600
TOTAL:	$ 93,600

12. Financial Controls

a. Financial Management

Each District Ranger and Supervisor's Office staff will submit, and have approved by the Forest Supervisor, a 1300-4, Project Work Plan, for timber sale work, roads, RDMA, and clerk salary to be financed from project funds.

The project supervisor will prepare the 1300-4, Project Work Plan, for the direct treating project. The insect control branch chief will submit the plan to the Forest Supervisor for approval.

The Administrative Officer will allot funds to the Districts, according to established procedures. The project supervisor will be notified of the funds, within which he must operate, by the insect control branch chief upon approval of the project work plan (1300-4) by the Forest Supervisor.

The insect control administrative assistant will keep cost records for the project and will supervise cost keeping for the zone supervisor. Zone cost records will be reviewed periodically and cost checked against progress.

b. Cost Keeping and Analysis

To provide for accurate cost keeping and analysis, all suppression costs will be ADP coded. Each unit will code separately as follows:

Unit	Code
S.O. Project	30 plus ADP code
S.O. Road Crews	30 plus ADP code
Districts	By number
TM staff sale prep.	30
Ashton zone	20

The ADP code is as follows:

First Digit

1 - Force account chemical treating
2 - Fell and burn
3 - Payment to tree treating contractors
4 - Spotting for contract areas
5 - Paintlining for contract areas.
6 - Tree-spraying contract administration (includes checker foreman and checkers' salaries, travel, supplies, and equipment, etc.)
7 - Project road construction and maintenance (includes snow removal)
8 - Camp costs

9 - Overhead (includes only project supervisors and their assistants, clerk, safety officers, S.O. personnel, and quality control officers. All other overhead are field personnel and should be charged to the work they supervise)

Second Digit

71 - Supplies and miscellaneous
72 - EDB (includes dump charges, oil, and all insecticide handling costs)
73 - Meal
74 - Equipment
75 - Salaries
76 - Travel (personal car and per diem)
77 - Equipment rental (pool and non-pool equipment)
78 - Services

c. Examples of Coding

Porcupine District Ranger salary - 904-914-01-04

Zone contract checker's pickup rental - 904-044-01-20-0-0000-6-77

Road crew patrol operator's salary - 904-044-01-30-0-0000-7-75

Insect control supply officer's salary - 904-970-01-30-0-0000-9-75

Ashton District clerk salary - 904-044-01-03

Ashton zone clerk salary - 904-044-01-20-0-0000-9-75

Island Park insect timber sale preparation and administration - Forester's salary - 904-914-01-02

S.O. forester's salary - 904-044-01-30

d. Control Dates

An insect-control financial review will be held on the second and fourth Tuesdays in June at the Targhee N.F. Supervisor's Office. S.O. units and the zone will have a record of expenditures to date and their projected expenditures to June 30. Surpluses or deficits in allotments will be adjusted as needed. Funds will also be adjusted with Regional personnel. Additional reviews will be held, as needed, throughout the project to insure that adequate controls and quality of work are maintained. The project supervisor, insect control administrative assistant and forest administrative officer will examine records and operations during the project, varying the examination on the zone as deemed necessary.

All contract unit tree estimates will be presented at the fourth Tuesday of June meeting. The funds for contract-treating payments will then be balanced between the contracts, or limits set for maximum number of trees to be treated with F.Y. 1969 money.

13. Functional Supervision Controls

The Administrative Officer or his insect-control administrative assistant will visit the zone headquarters to check the financial status, contract compliance, plant operation, and other business management activities at the close of each 30 days of operation. Additional trips may be necessary if the Administrative Officer later deems necessary.

A memorandum will be furnished to the Forest Supervisor within five days after each 30-day visit outlining briefly his findings and any recommended action. The first visit will be made to the zone not later than May 30.

The insect control branch chief will visit zone projects at least once each 30 days beginning May 23. He will review the overall project operation including the efficiency of the project. He will furnish to the Forest Supervisor a memorandum within five days after each trip outlining his findings and list any recommended needed action.

14. Treating Standards

a. Paintlining Specifications

(1) Areas for treatment will be properly laid out on a base map, considering the following:

(a) Access for goop hauling, personnel, packers, and/or other mechanical equipment.

(b) Terrain.

(c) Boundary of infestation will be marked with a yellow line where necessary.

(2) A sketch map of each treating unit will be prepared on a 4" scale. This map will show the following:

(a) Boundaries of unit and sub-units if subdivided.

(b) Paintlines with numbers.

(c) Physical features and section lines and numbers.

The zone supervisor will be responsible for preparation of maps for each treating unit. The original should be prepared on transparent plastic sheets. Copies can then be made on the blue-ray machine in the Supervisor's Office. Plastic map sheets are available in the Supervisor's Office.

(3) Each treating area will be divided into lanes separated by painted lines. All lines, except outside boundary of unit, will be marked with orange paint.

(a) Sufficient trees on the paintline will be marked so each marked tree is visible from the other.

(b) In large openings, the lines will be flagged on bushes at least every chain with orange flagging.

(c) Lane widths will be no less than one chain and no more than three chains. Lanes should average two chains wide.

(d) The orange paint marks on the lines will be at least six feet high, no more than eight feet high and on both sides of the tree facing the direction of the line. These marks will be no more than four inches in diameter. Two-inch wide slash marks may be used on alternate lines.

(e) The beginning and ending of each line will be at a tree marked with orange flagging completely around the tree.

(f) Lines within a sub-unit will be consecutively numbered with the lane being on the right of the line as seen from the beginning.

(g) The beginning and ending of each line will be tagged with light colored tags and so marked. Line numbers will also be written on each tag. Wherever the line crosses a road or trail, a tag will be placed on one side of the road or trail and marked with the line number and flagged with orange flagging.

b. Spotting Specifications

(1) Spotters will be required to spot 100 percent of the infested trees on any area. A tree will be considered infested if it has a DBH of 4 inches or more, and contains live mountain pine beetle or their brood that are not enveloped in pitch at least twenty-four inches above the ground line.

(2) Spotters will visually check all live lodgepole pine with a DBH of four inches or greater within a paintline. Only when the visual examination reveals indication of infestation such as frass, pitch tubes, or entrance holes will the spotter chop into a tree. To check a suspected tree, the spotter will check with his hatchet in not more than three places. He will, therefore, need to inspect each tree at least as close as arm's length.

(3) When an infested tree is found, the tree will be tagged for treating with a colored tag. The tags are divided by a horizontal perforation across the middle. Each half will be identically numbered. The spotter will mark the paintline number on each half and staple the tag to the tree with at least three staples in the top half, and one staple in the bottom half with the tag facing the beginning of the lane. The opposite side of the tree will be blazed. At least four staples will be put into the tag.

(4) Trees will be blazed on the opposite side from tags and the month and year of treatment written on the blaze. Blazes will be at least 6 inches long and 4 inches wide.

(5) Force account spotters will mark all trees to be treated in recreation sites with red flagging only and no tags or blazes will be used.

c. Spraying Specifications

(1) All infested trees treated standing must be sprayed to a height of at least 30 feet or three feet above visible evidence of attack, whichever is higher.

(2) On trees treated standing with an infestation higher than 30 feet, spray crews will fell such trees only if the height of infestation exceeds thirty feet on more than five of the trees in any stringline, and they are not all in a group. If such trees are in groups of three or more they will be felled and treated.

If more than five of the trees within a stringline are infested above 30 feet, the sprayers will spray standing as high as possible and fell them and spray the remaining infested portion, if necessary. The project supervisor of each unit will be responsible for determining if it is necessary to fell the trees.

(3) Stumps on felled trees will not exceed 12 inches in height on the average ground level. Infested trees adjacent to any body of water which cannot be sprayed standing without having direct streams of the spray falling into the water will be felled away from the water so any excess spray falls on the ground.

(4) Any obstruction of a road or trail caused by felling of trees will be cleared from the right-of-way.

(5) All slash will be lopped to a four-inch top.

(6) Trees which are less than twelve inches DBH will be sprayed on at least three sides. Trees which are over twelve inches DBH will be sprayed on four sides.

(7) In spraying, the sprayer will start spraying at the high point on the tree and spray downward to the base. The insecticide will be sprayed so that it flows down the tree as it is sprayed. A tree will not be considered as being adequately sprayed if it is only dampened.

(8) Trees felled for treating will be treated thoroughly with insecticide on all sides of the infested portion.

d. Quality Control

There will be one quality control and safety officer for the project. He will report directly to the zone supervisor.

A complete checker organization is planned to insure accurate and efficient contract compliance. It is planned to check 100 percent of the contract work. All such checking will be fully documented according to established procedures.

The quality control officer will submit check report forms R4-5200-2 and narrative reports at weekly intervals. A copy of each of the reports will be sent to the project supervisor who will route the reports to the insect control branch chief for his review. The zone supervisor will add his comments to each report to state what action he will take to correct weaknesses or deficiencies.

The Forest entomologist will periodically check the development of the insects to keep the insect control branch chief and the project supervisor informed so treating can be continued only while technically practical.

15. Reports and Records

a. Records

The zone supervisor will keep the following records and send to the project supervisor at the end of the project:

(1) Daily Record of Expenditures

(2) Progress map showing daily progress.

(a) Will be 1/2-inch scale.

(b) Will show paintlining, spotting, and spraying as they are completed.

(3) Daily Progress Record (R4-5200-10)

(a) If a unit has both contract and force account treating, a separate record will be maintained for each operation.

b. Reports

The following reports will be prepared as indicated:

Name of Report	Due	Where	By Whom
(1) Weekly Progress Report (R4-5200-6)	Friday	S.O.	Zone supervisor
	Monday	R.O.	Project supervisor

This report is due each Monday in the Regional Office. Therefore, the reporting period will be from each Wednesday through the following Tuesday to allow the zone supervisor to have his report in the Supervisor's Office by Friday morning. A half-inch scale progress map will be sent with each report. It will be returned to the zone supervisor after the Supervisor's Office progress map is posted each week.

(2) Final Project Report	20 days after completion	S.O.	Zone supervisor
	30 days after completion	R.O.	Project supervisor

This report will include the following:

(a) Narrative Report (see FSM 5244.32) (S.O. report only)

(b) Inventory of all insect control equipment.

(c) Forest Insect and Disease Suppression Report, R4-5200-12 (S.O.) This report must be submitted for each state in which work is done.

(d) Safety Report - should show the following:

1. Total man-hours worked and miles driven.

2. Number of vehicle accidents.

3. Personnel accidents including first aid cases, compensation cases, and lost-time accidents.

(e) Personnel ratings (For Official Use Only) - should show the following:

1. Evaluation of each detailer on Targhee Employee Evaluation form.

2. Performance list showing each man that worked on the project giving name, position held, ratings, and what higher position they could fill (both permanent and temporary).

(h) Pesticide Use Report (R4-5200-13) - for fiscal year only. (S.O.)

(i) Treating maps (1" scale) - should show the following:

1. Number of trees treated by units.

2. Number of acres by units.

3. This should be shown by units as indicated on the treating-plan maps.

(3) Inventory

A complete inventory will be maintained of insect-control equipment, by the zone supervisor for his zone. The insect control supply officer will keep a complete inventory of all equipment on the Forest and report to the project supervisor.

16. Planned Work Schedule

Job	Planned Accomplishment Date
Start paintlining	3/17/69
Complete paintlining	5/3/69
Order supplies and vehicles	4/1/69
Advertise treating, oil, and EDB contracts	4/4/69
Start treating contracts	5/21/69
Start oil, EDB	5/14/69
Checker training	5/12-16/69
Submit master plan to R.O.	4/18/69
Fund roundup	6/10 and 6/24/69
Award treating contracts	5/2/69

Job	Planned Accomplishment Date
Complete all treating	7/15/69
Send detailers home and close project	7/20/69
Final report on project	8/20/69

APPENDIX A

SAFETY COORDINATION PLAN

Insect-Control Project

Targhee National Forest

F. Y. 1968

I. Objective

A. Aid implementation of Forest, District, and zone safety plans.

B. Assist the Rangers and zone officers in meeting their safety goals.

II. Responsibility

A. The zone supervisor is responsible for the safety program on his zone.

1. He can delegate the authority for carrying out the safety program to his assistant zone supervisor, unit safety officer, etc., but not his responsibility.

2. Every project employee is responsible for his own safety, the safety of those he supervises, and the safety of everyone in his vicinity.

3. The contracting officer's representative is responsible for gaining compliance from the contractor and his employees with regard to the safety clauses in the contract.

B. The S. O. project supervisor is responsible to the insect control Branch Chief for coordinating safety activities on all phases of the insect-control project to meet the Forest safety program.

III. Action Plans

A. The project safety plans on each zone will be adhered to by all project personnel.

1. Copies of the weekly safety meetings will be forwarded weekly to the Supervisor's Office. One copy to Forest safety coordinator and one to the project supervisor.

2. Safety plans, safety meeting reports, inspection reports, accident reports, and hazard surveys will be reviewed and discussed with the zone safety officer and other involved personnel.

PROJECT SAFETY PLAN

I. INTRODUCTION

Safety on the job is a personal goal and a personal responsibility. No one wants to have an accident, but no amount of instruction, supervision, planning or training in accident prevention can guarantee you that you can't or won't have an accident. Only through your active support and participation in our safety program can you even hope to keep yourself accident free.

An accident is defined as "something someone did - that he shouldn't have done, or something he didn't do - that he should have done". Keep yourself informed of current safety practices. Accident prevention and safety code compliance shall take precedence over immediate job production, with safety always first.

II. PURPOSE

The purpose of this safety plan is to keep all accidents on the project to a minimum.

This will be done by setting forth in this safety plan the safety practices to be followed; who will be responsible for the safety program in all phases of the insect control work and the various safety hazards that will be encountered.

III. OBJECTIVES

1. No fatalities.
2. No lost-time accidents.
3. No vehicle accidents.
4. Reduce minor accidents.
5. Make every employee conscious of, concerned with, and responsible for his safety and the safety of others.
6. Encourage employees to find new and better ways to accomplish the required job safely.

IV. RESPONSIBILITIES

Each individual has the responsibility for preventing injury to himself, as well as to others.

A. Forest Service Responsibilities

1. Provide and maintain a sanitary, accident-free camp.

2. Provide and maintain, as much as possible, safe, accident free working conditions.

3. Provide overhead personnel that will train employees to work safely, recognize safety hazards and maintain safe working and living conditions.

4. Provide safe equipment and medical aid materials.

B. Zone Supervisor Responsibilities

1. Insure the execution of this safety program.

2. Provide for the initial and subsequent safety training of all personnel.

3. Make sure each man carries out his respective safety responsibilities.

4. Make continuous safety checks on equipment, camps, working conditions and men.

5. Carry out the recommendations of the Safety Officer.

6. Make changes in methods or personnel as they are necessary to maintain safety.

7. Inform appropriate District Ranger of all accidents involving medical, lost-time, or vehicle cases.

C. Zone Safety Officer Responsibilities

1. Enforcement of the safety program.

2. Conduct documented weekly safety meetings with all zone personnel.

3. Make documented safety inspections on camp and field operations and facilities.

4. Assist in the preparation of accident forms and conduct follow-through action to insure that all accidents are reported properly.

5. Review accident reports and make recommendations to prevent future accidents similar in nature.

6. Prepare weekly reports concerning progress of the zone safety program for the Zone Supervisor.

7. Check all vehicles for proper accident report forms.

8. Make sure all personnel and camps are provided with adequate first aid supplies.

9. Prepare building fire plans for all zone installations.

10. Keep the safety plan current by making hazard analysis surveys as needed.

11. Prepare report listing number, type, and action taken on all accidents on the zone within five days of project completion.

D. Checker Foreman Responsibilities

1. Insure that men act safely while in the field and in transport to and from site.

2. Locate and correct hazards and unsafe actions when possible.

3. Insure that each crew in the field has immediate access to first aid equipment.

4. Insure that all accidents are reported and that injured men receive their necessary medical aid required.

5. Insure that vehicles and equipment are operated in a safe manner and are properly maintained.

6. Assist in safety training.

7. Be alert for "Accident Prone" individuals and report them to zone supervisor or assistant.

8. Report all accidents, involving members of his crew, to his supervisor.

9. Use only safe equipment and insure the safe operation of such.

E. Crew Member Responsibility

1. Observe safety regulations.

2. Report new hazards and unsafe conditions to foreman.

3. Must assume full responsibility for his safe conduct and the safety of the men around him, both in camp and in the field.

4. Report all injuries, no matter how slight, to immediate supervisor.

5. Must keep himself physically and mentally fit for work.

V. TRAINING

A. Each employee will be required to be familiar with the portions of this plan that apply to his area of authority or work.

B. Before beginning work, each employee will be instructed in the safe performance of his work and safe conduct both in camp and in the field.

C. Everyone on the zone will attend and take part in the weekly zone safety meeting.

D. Periodically, and as the occasion offers itself, the crew foreman will discuss ways of correcting or avoiding new safety hazards with his crew.

E. Each employee will be cautioned that violation of safety rules will not be tolerated. Individuals who do not adhere to these rules will be disciplined by the appropriate action.

F. Copies of the Forest Service Health and Safety Code Handbook will be available for use by all personnel.

VI. SUPERVISION

A. Each man in a supervisory position will observe his men at work; call their attention to hazards, unsafe work habits and acts, unsafe working conditions and will make corrections immediately.

B. Particular attention will be given to new employee's attitudes towards safety. Necessary corrections will be made.

C. Each person in a supervisory position will be responsible for the safety of all personnel under his supervision.

VII. SAFETY MEETINGS

A. Safety Officer

1. The Safety Officer will conduct and document a weekly safety meeting for all zone personnel.

2. Additional safety meetings will be held when necessary.

B. Crew

1. Each foreman will hold a safety orientation training session for his crew on the first day of work. Any new men added to the crew will also be oriented.

2. Each foreman will hold at least 1 five-minute safety meetings per day to discuss specific job hazards.

C. Records

Each weekly safety meeting shall be documented and forwarded to the Forest Insect Control officer.

VIII. INSPECTIONS

A. Project Supervisor

Will make periodical inspections of all activities to insure compliance with Zone Safety Plans. Zone supervisor will do the same for zone activities.

B. Safety Officer

Will make documented frequent inspections of all phases of the project. He will infora individuals and supervisors of any unsafe practices and see to it they are corrected.

IX. PUBLIC SAFETY

No phase of insect control work will be done in a manner that will present a hazard to the public; nor shall any employee, while on the job or traveling to and from the job, act in a manner that endangers the public. Instances of disregard for public safety will be corrected promptly and personnel action will be taken whenever necessary.

X. SUMMARY

Accidents can be kept at a very low number. The seriousness of accidents can also be minimized. This will require complete cooperation of each employee in this safety program. Each individual must maintain a safety attitude and think safety.

The objective of this plan is a record of no fatalities; no lost time accidents, a minimum of minor accidents, and elimination of job hazards, where possible. Accomplishments of this plan will require complete safety training, complete supervision, follow-up inspections, and a consciousness in each individual.

Unsafe acts will not be tolerated. Most accidents don't happen, they are caused.

This plan is for your protection. Use it as a guide and use it with good judgment and common sense.

B. Safety Hazard Analysis

The following is a safety hazard analysis report compiled from the zone project safety plans:

Ethylene Dibromide (EDB, Goop)

This chemical is caustic; i.e., it will burn the skin and cause blisters. Personnel should handle with care and avoid letting it come in contact with their skin. Any chemical that does get on the skin or clothing should be washed off as soon as possible with soap and water. Contaminated clothing should be thoroughly cleaned before re-use. (Goop dump workers should use plastic, nylon, or neoprene gloves and rubber boots.) Contaminated gloves should not be carried in pockets. The goop dumps should be protected from the public, and vice versa. Spilled goop should be cleaned up immediately, and the dump areas kept clean and orderly. Sawdust or sand will be sprinkled daily on dock and step surfaces.

The chemical is poisonous. Containers should be marked with the word "Poison". Users will ensure that goop will not reach streams or lakes, damage plants, contaminate soil, or harm birds, fish, or animals. EDB is flammable though not explosive. Iron and bronze will be affected, but may be used. Natural rubber is disintegrated quickly and should not be used.

Breathing EDB fumes in a confined space can be deadly.

Proper Clothing

Hard hats will be worn by all personnel in the woods except those men engaged in the use of pack and saddle stock and snowmobiles. Foremen and unit supervisors should see that all their personnel use adequate foot gear. Other items are mentioned under EDB.

Livestock

Only authorized personnel will handle saddle or pack stock. Animals should be made aware of user's approach or presence. No animals will be used unless they are gentle. No one will be allowed to use pack and saddle stock unless they have demonstrated that they are capable riders or packers.

Vehicle Use

The features of weather and terrain on which vehicles will be used will necessitate extreme safety considerations and precautions. Particular attention should be given to proper qualification of drivers. No one will be allowed to operate government vehicles without a valid Forest Service driver's license.

In addition: Loose equipment should not be carried in the same compartment as personnel, periodic preventative maintenance checks will be prepared, bad road hazards or conditions will be repaired

or improved when possible, engine will be turned off when dismounting, vehicles will be moved only after checking area in front and rear, vehicles should not be overloaded, mud holes and chuck holes should be checked before trying to cross, and no one should stand in moving trucks.

Game (moose, elk, bear, deer)

Avoid, if possible, but specifically do not harass big-game animals. When it is the season for young animals, there must be an anxious mama nearby, and vice versa.

Diesel Fuel

This is a flammable liquid. There should be no smoking within 50 feet. Containers should be tagged and grounded. Refer to F.S. Health and Safety Code, Section 3.3.

Camp Facilities

Provide and check for: proper sanitation, wiring, steps, water test, gas fittings, orderliness. All steps will be sanded when icy.

Use of Handyman Jacks

Keep them oiled and clean. Stay clear so if the jack slips, it will not strike anyone. Always have it on a firm footing.

Hazardous Walking Conditions

Hazardous walking conditions will be encountered on steep hillsides and in inclement weather. These conditions can be minimized by the use of good footwear with a deep tread.

Chainsaws

Very severe cuts can be caused by careless and improper use of the chainsaw. Accidental burns may occur if the muffler is touched while the saw is in use, or if the saw has not cooled sufficiently before filling.

The above injuries may be avoided in the following ways:

1. Ordinarily, the saw should not be carried while the motor is running.

2. Get solid footing and a good hold on the saw when starting it. The saw should always be on a solid level object when it is started.

3. Clear the working area of other personnel.

4. Cool saw five minutes before filling and wipe spilled fuel off motor.

Axes and Hatchets

Cuts and splinters are possible injuries from both the axe and hatchet. Splinters can be avoided by sanding or replacement of the handle.

The number and severity of cuts may be minimized in the following ways:

1. Unused axes and hatchets should be kept sheathed when not in use.

2. Keep other personnel at least six feet away when using the axe.

3. No horseplay or throwing.

4. Check hatchet or axe head prior to each use to insure that it is tight.

5. Keep them sharp.

6. Maintain constant control of your swing.

7. Use gloves, handles and guards when filing.

Lifting and Carrying

Incorrect lifting and carrying often cause back injuries and hernias. This shall be avoided in the following ways:

1. Use mechanical help (e.g. skids, rollers, etc.) when available.

2. Test the load and get help when it is too heavy.

3. Use arm and leg muscles instead of back muscles.

4. The lifting limit should be 70 pounds.

5. Maintain a firm grip at all times.

Pack Stock

Serious bruises and broken bones may result from careless handling of pack stock.

All pack animals shall be treated as dangerous until proved reliable. Inexperienced persons shall not work with pack stock without close supervision and employees shall let stock know when they are around.

Insects

Insect bites and stings sometimes cause the victim to go into shock as well as cause pain. Also, insect bites and stings on livestock may cause injury to unwary personnel.

Snags and Widowmakers

Snags and widowmakers are responsible for s large number of injuries with death the end result all too often. Constant alertness and not working in the timber during high winds will reduce this threat.

Rolling Objects

Injuries caused by rolling debris may be avoided by stablizing objects that might roll into the area in which you are working and by constant alertness.

Tree Felling

Tree felling involves many hazards and the possibility of an unlimited number of types of injuries. Major hazards that exist are: slippery footing, hidden obstacles, snags, widowmakers, butt whiplash, power saw operation, axe use, fatigue and saw blowups.

Tow Chains and Power Winches

Pulling vehicles involves good judgment to avoid injury. Major hazards that exist include breaking, whiplash,stepping over, or standing too close while in use, catching clothing or gloves in moving cable, shear pin breaking under load.

Ways to Avoid These Hazards:

1. Secure your footing.

2. Watch where you step.

3. Watch for snags, widowmakers and butt whiplash at all times.

4. Observe all safety regulations when filling the saw.

5. Don't over-do it.

6. Read instructions and follow directions. Get training from experienced men.

7. Wear cow bells in all areas where a bear might be encountered.

General

Refere to F.S. Health and Safety Code, Section 8, for proper signing and color coding.

APPENDIX B

INFORMATION AND EDUCATION PLAN

Insect-Control Spring Project

Targhee National Forest

F.Y. 1969

I. Introduction

The purpose of this plan is to provide for getting accurate information to the public concerning the insect problem, what the Forest Service is doing about it, and how. This must be done in order to gain their understanding and support. The insect damage and necessity for controlling it must be made known. The methods of control and the efficiency of the operation should likewise be made clear.

The effects of the insect, if uncontrolled, on the local economy should be made known to those affected. This may include those directly affected, such as timber operators and their employees, owners of neighboring timbered land; or those indirectly affected, such as the motel, hotel, cafe, and filling station operators who serve the traveling public. The probable spread of the infestation if uncontrolled, and resultant damage, would have a sizeable impact on the economies of the local communities. Similarly, the economies of the towns near the projects will be bolstered by the influx of personnel and equipment which is brought in to do the insect control work. Approximately $1,400,000 will be spent on the project this year, most of which will probably be re-spent in the communities near the projects.

II. Problems

Possible problems of an I&E nature which, while not necessarily anticipated, should be prepared for, include:

A. Opposition to the spraying on the grounds that there are harmful effects on fish, birds, small game, big game or livestock. While such impressions are false, and should be corrected when encountered, it would be better to dispell such fears before they are voiced. The same is true for any possible fears for public safety due to harmful effects of EDB.

B. Adverse comments on the high expense of the work. It should be brought out that the benefits of the control program outweigh the expense.

C. Opposition to the contracting of the work; likely if contractors bring in manpower from outside areas if there is local labor available. This could become a problem if there is local labor available. This could become a problem if the contractors' employees conduct themselves badly, such as non-payment of bills, bounced checks, drunkenness, etc. The reasons and advantages for contracting should be made known. Efforts to work with the contractors to handle difficult personnel should be made by the Rangers and C. O. R.

D. Complaints of inefficiency and/or waste. The best way to solve this problem is to ensure that there is no basis for it. Contractors, their employees, and new Forest Service employees should be broadly oriented with the insect-control program and how it fits into other Forest Service programs. The reasons for rigid contract requirements, close inspections, living conditions, etc., should be explained.

E. Misunderstandings developing from the past and present cooperative State and private land treating program. The State Forester will be kept informed of project objectives. The insect control Branch Chief will carefully review and coordinate all cooperative treating efforts and inform the public, through news media, of the applicable law and regulations and treating objectives.

Informational signs will be prepared for placing along major highways when treating is in progress.

F. Lack of understanding of apparent results from past expenditures and efforts for control. The Forest Service must explain the overall objectives of partial control. Policy should be further developed and explained. Past results should be emphasized.

III. Responsibilities

A. The District Rangers are responsible for the I&E program for the projects on their districts and in their zones of influence. Particularly newsworthy items and project news of more than local interest should be forwarded to or brought to the attention of the insect control Branch Chief in the Supervisor's Office. The Rangers and zone supervisor should pay particular attention to seeing that unfavorable information does not originate from Forest Service crews and district personnel.

B. The Timber Management and Insect Control Branch Chief in the Supervisor's Office will be responsible for I&E work at the Supervisor's Office level. He will have available a display on the mountain pine bark beetle to be used for special events. During other periods, it will be installed at appropriate places.

C. A one-year I&E plan has been prepared for the project and will supplement this plan.

IV. Contacts and Media

A. Newspapers

News releases will be released to applicable papers as news items come up, such as:

1. Contract awards

2. Work commences

3. Progress report (mid-project, or weekly)

4. Project completion

B. Radio

1. The program, as scheduled on KRXK, and KIGO, will be prepared by the Insect Control Branch Chief.

2. KRXK, KIGO, and Idaho Falls radio stations will be contacted for additional program possibilities.

3. Newsworthy items will be published currently as applicable.

C. Group Presentations

1. Presentations will be made or arranged for interested groups at their interest or request.

D. Brochure

A Brochure on the bark beetle control project is being revised for distribution to the public.